# CS Q-LEAP™ GYRO with DRE-01

calibration system with dynamic rotation exciter

HERO™ vibration controller
incl. signal conditioners

CS Q-LEAP™ software

- sine calibration
- vibration measurement
- vibration generation
- more on demand

DRE-01 dynamic rotation exciter
with internal reference standard BN-43,
APS 0109 zero position controller
and power amplifier PA 500 DM

## Typical DUTs

- gyro transducers
  (angular velocity)
- Inertial Measurement Units (IMU)
- rotation rate measuring systems

* DUT = Device Under Test

## Standards

- ISO 17025: General requirements for the competence of testing and calibration laboratories

## Key features

Calibration system for dynamic angular velocity in the frequency range 1 Hz … 200 Hz

Traceable to PTB (German National Metrology Laboratory)

Calibration of angular velocity sensors and measurement systems

Integrated sensor database

Integrated software for the generation of calibration certificates (print, PDF,…)
Easy data exchange with applications like ERP systems or measuring equipment databases

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Get your quote!

| | |
|---|---|
| **Torque, max. (sine peak)** [1] | 0.95 Nm |
| **Frequency range** [2] | 1 Hz … 200 Hz – traceable range for calibration<br>> 200 Hz … 5 kHz – extended range for testing purposes |
| **Angle, max. (peak - peak)** [3] | 30° |
| **Angular velocity, max. (sine peak)** [1] | 5 300 °/s |
| **Angular acceleration, max. (sine peak)** [1] | 2 500 000 °/s² |
| **Mass moment of inertia of bare table** | 22 kg·mm² |
| **Mass moment of inertia of payload, max.** | 400 kg·mm² |
| **Payload, max.** | 0.5 kg |
| **Centrifugal force due to unbalance, max.** | 1.5 N |

| **Frequency range** | | **Weight of DUT** | **Expanded measurement uncertainty** [4] **magnitude** [5] **/ phase** [6] | **Excitation amplitude** (Peak value) | |
|---|---|---|---|---|---|
| **from** | **to** | | | **min.** | **max.** [7] (Angle, rate of rotation, angular acceleration) |
| 1 Hz | 200 Hz | up to 200 g | 1.5 % / 1.5° | 1.0 °/s | Rotation angle: 30°<br>Angular velocity: 5300 °/s<br>Angular acceleration: 2.5 E⁶ °/s² |

All specifications are at a temperature of +23 °C (±2 °C) and a relative humidity of 30 %... 75 % unless otherwise specified.

1) Intervals of 5 minutes
2) Frequency range without mounting table
   Frequency range with mounting: 1 Hz … 4.5 kHz; with internal reference standard: 1 Hz … 2 kHz
3) Recommended operation range peak-peak; mechanical stops at 40° peak-peak
4) Determined in accordance with GUM (ISO Guide to the Expression of Uncertainty in Measurement, 1995) with k = 2 (coverage factor) for an ideal test object (additional allowances will need to be estimated for other, non-ideal test objects)
5) Data applicable to electric sensor signals ≥ (1 mV or 1 pC)
6) Data only valid in conjunction with the PHASE option
7) Maximum excitation without test object